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| 09/993,067      | 11/14/2001  | Kuo-Chen Lin         | TS00-251            | 7217             |

8933 7590 03/23/2005

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| EXAMINER |
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GOOD JOHNSON, MOTILEWA

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| ART UNIT | PAPER NUMBER |
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2672

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/993,067

**Applicant(s)**

LIN ET AL.

**Examiner**

Motilewa A. Good-Johnson

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This office action is responsive to the following communications: Application, filed 11/14/2001; IDS, paper #2, filed 01/31/2002; Amendment A, filed 03/11/2004; Amendment, filed 08/31/2004.
2. Claims 1-12 and 14-20 are pending in this application. Claims 1, 8 and 12 are independent claims.
3. The present title of this application is "Method and Apparatus for Displaying Production Data for Improved Manufacturing Decision Making" (as originally filed).

### ***Continued Examination Under 37 CFR 1.114***

4. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/31/2004 has been entered.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-12 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy, U.S. Patent Number 6,031,547, in view of Hsiung et al, U.S. Patent Number 6,865,509.

Regarding claim 1, Kennedy discloses a data processing and display method . . . comprising: a first variable value for a manufacturing stage (col. 5, lines 30-34) subtracting said first variable value from a first target value to obtain a first variable variance (col. 6, lines 50-54, calculating the deviation above or below for a accepted threshold, which Examiner interprets as a first variable, with a baseline, which Examiner interprets as a target value, see also figure 3, elements 210, 220 and 222); displaying a first variable variance bar above a stage axis on a graphical display device where said first variable variance bar is non-filled if said first variable variance is positive and is filled if said first variable variance is negative (col. 6, lines 55-63); subtracting said second variable value from a second target value to obtain a second variable variance (col. 5, lines 11-25, individual bar graphs representing the parameters to be measured, which Examiner interprets as including a second variable value, i.e. baseline, with a second target value, i.e. threshold, and calculating the deviation, i.e. variable variance, for a second set of values); displaying a second variable value bar below said stage axis on said graphical display device wherein said second variable value bar is non-filled (col. 6, lines 50-59); and displaying a second variable bar on said graphical display device if said second variable variance is positive wherein said second variable variance is filled, wherein said first target value and second target value are not

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graphically shown on said graphical display device (col. 6, lines 58-59 and col. 5, lines 46-47, clearly visible sections are displayed from baseline)

However, it is noted that Kennedy fails to disclose uploading a first variable value from a database and uploading a second variable value for said manufacturing stage from said database.

Hsiung discloses a database connected to server including information for process control and monitoring functions and the database may be resident on a server, col. 6, lines 1-9, and further that the data for the process inputs and outputs may be acquired on the internet, col. 7, lines 1-7, which Examiner interprets as uploading first and second variable values for a database for a manufacturing stage.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the graphical display of bar graphs showing deviation, i.e. variance, i.e. difference of a first variable value, i.e. baseline, with a first target value, i.e. threshold, to obtain a variable variance, i.e. deviation, as disclosed in Kennedy, to further include a database for storage as disclosed in Hsiung, to allow a user to acquire the process inputs and outputs from remote locations such as over the internet.

Regarding claim 2, Kennedy discloses first variable comprises a work-in-progress (WIP) (col. 2, lines 53- col. 3, line 17, the process of the wafers with such states as a unfinished state, finished state, indexers to hold wafers to be unloaded, and loaded and other processes performed such as moving and transferring in and out of a process chamber, which Examiner interprets as a work in progress. col. 5, lines 32-38, the operator may wish to monitor particular stages of a process, which Examiner

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interprets as inclusive of a work in progress, because work in progress is included in the manufacturing process of wafers)

Regarding claim 3, Kennedy discloses second variable comprises production moves (col. 2, lines 53- col. 3, line 17, the process of the wafers with such states as a unfinished state, finished state, indexers to hold wafers to be unloaded, and loaded and other processes performed such as moving and transferring in and out of a process chamber, which Examiner interprets as production moves. col. 5, lines 32-38, the operator may wish to monitor particular stages of a process, which Examiner interprets as being inclusive of production moves because production moves are a process stage of the wafers processed)

Regarding claim 4, Kennedy discloses filled bars comprise any of the group of: color filled, texture filled, and gray-scale filled (col. 7, lines 15-19)

Regarding claim 5, Kennedy discloses manufacturing process comprises integrated circuit manufacturing (col. 2, lines 53-56)

Regarding claim 6, Kennedy discloses displaying said first variable, said first variable variance, said second variable, and said second variable variance for said stage as text data on a graphical display device (col. 5, lines 61-67)

Regarding claim 7, Kennedy discloses displaying a sub-category bar above said first variable variance bar wherein said sub-category bar comprises an amount of said first variable within a defined sub-category and wherein said subcategory bar is distinctively filled (col. 7, lines 12-20, bar graphs can comprise segments, have arbitrary size and correspond to a particular parameter, with additional colors and

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patterns to indicate different levels of deviation, which Examiner interprets as a sub-category)

Regarding claims 8-11, they are rejected based upon similar rational as above claims 5, 4, 6 and 7 respectively based upon the teachings of Kennedy in view of Hsiung.

Regarding claim 12, it are rejected based upon similar rational as above independent claim 1. Kennedy further discloses a CPU, col. 3, lines 49-50, (means of uploading from a database); a memory, figure 3, element 82 (means of storing); data analysis module element (means for calculating), col. 3, lines 49-50, processor; and a display, figure 3, element 38 (a graphical display means).

Regarding claims 14-18 and 20, they are rejected based upon similar rational as above dependent claims 2-7 respectively based upon the teachings of Kennedy in view of Hsiung.

Regarding claim 19, Kennedy discloses text data is displayed in response to a user input device (col. 5, lines 61-67)

### ***Response to Arguments***

7. Applicant's arguments, see pages 9-10, filed 08/31/2004, with respect to the rejection(s) of claim(s) 1-20 under 35 U.S.C. 103 over Guerlain have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of 35

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U.S.C. 103 Kennedy, U.S. Patent Number 6,031,547, in view of Hsiung et al, U.S. Patent Number 6,865,509.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Motilewa A. Good-Johnson whose telephone number is (703) 305-3939. The examiner can normally be reached on Monday, Tuesday and Thursday 9:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (703) 306-0403. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Motilewa A. Good-Johnson  
Examiner  
Art Unit 2675

mgj

  
**SUMATI LEFKOWITZ**  
PRIMARY EXAMINER